U2030-1

ECONOMIC NEWSLETTER

Russian Research Center
Harvard University

Volume XVI, No.1
September 20, 1991

The Economic Crisis Continues

In July the then prime minister Valentin Pavlov argued that the economic situation during the first six months of the year had been stabilized, or at least there was no acceleration in the rate of decline. Since then things have obviously changed dramatically. Despite his claims, the decline did seem to intensify, at least in some sectors in July, and, based on some preliminary reports, that seemed to continue during the month of August. The attempted coup in August has undoubtedly had a very serious impact on economic productivity but those figures will not show up for at least another month or two. In addition, of course, Valentin Pavlov now sits in jail which dramatizes how serious conditions have become.

The figures for July show a continuing drop in output. While oil production fell by about the same amount as it did in June, there are estimates that for the year as a whole oil production will fall by about 10%, from 551 million tons (11 million barrels a day) to as little as 490 to 500 million tons (10 million tons a day). There are increasing reports that one half of the funds needed for maintenance in the oil fields and on the pipeline were withheld. As a consequence there is greater and greater concern about the ability of the pipelines to deliver the oil that has been extracted. The same kinds of concerns hold for the natural gas industry, although natural gas output has risen about 1%.

The energy sector, except for natural gas, however, continues to suffer. Coal output is declining at about 11% a year. Coking coal is down as much as 20%. In addition in some parts of the country there have been significant cutbacks in electrical output, particularly in the Ukraine where nuclear energy was previously planned as an important source of energy. As it is, electrical output for the country as a whole is down about 2% for the first seven months of 1991.

The output of household goods has also fallen. The output of soap is down 17-20% and cigarette production is down 12%. In addition there seem to be serious shortages of food. In part that is a consequence of the continuing inflation which takes place. Prices have gone up twofold during the first seven months of 1991 compared to 1990.

In the meantime there is continuing concern about the harvest. Reports have appeared that the peasants are holding back on the delivery of grain. The situation is not helped by the shortage of fuel or by the fact that tractor output for the year is down 13%. As a stimulus to the peasants, agricultural officials have agreed to give the peasants payments in hard currency after 20 million tons of grain were delivered. Last year hard currency was only given after 40 million tons of grain were delivered. Of course the question remains as to who is in charge at the center given the fact that now power has been distributed among the republics. Officials representing the union have requested $5.9 billion worth of agricultural support from the

European Economic Community. There are continuing concerns, however, about whether or not the republics and the union will be able to repay their debts. It is unclear as the union disintegrates who is responsible for which share of the debt. One estimate reported by Soviet economists is that the foreign debt in August totalled $65 billion and that servicing that debt required 40% of the country's hard currency proceeds. Another economist estimated that servicing that debt consumes $15 billion a year. There are also continuing problems with domestic internal debt. Yevgeny Yasin, one of the collaborators on the 500 day plan, calculated in August that the size of the budget deficit would reach 250-350 billion rubles which he said approximated 12-15% of the country's GNP. Most problematic of all, of course, is that as the union disintegrates, it is unclear who will transmit what portion of the tax revenue to the center. Thus the reporting of debt as a percentage of GNP becomes more and more of a guessing game. It looks indeed that the union center is relying more and more on the printing press rather than taxes to generate the rubles it needs to pay its bills. That is why prices and money incomes have gone up so.

Soviets Publish Balance of Trade Figures

This kind of table is rarely seen, and therefore there is no way to judge just how accurate it may be. It was prepared in early summer. It does show, however, that there has been a continuing deterioration in the trade as well as the invisible service balance.

One of the things we do not know, of course, is whether these figures refer to hard currency or total trade balances. The fact that they used billions of dollars suggest that it is probably just the hard currency balance.

Another interesting aspect of the table is that it shows gold exports hover between $3.5 to 4 billion a year.

Another noteworthy feature is that the size of the foreign debt for 1991 is predicted to be as high $80 billion but that may not be a net figure and may not allow for the fact that the Soviet Union holds currencies in other countries. Whatever the precise meaning of these data, one thing is clear--the economic situation has been deteriorating and the crisis that followed after the coup certainly will do nothing to improve conditions, at least in the short run.

Soviet Balance of Trade 1986 - 1990 and estimates for 1991 (in bils. of dollars)

	1986	1987	1988	1989	1990	1991
Commercial Operations	4.1	8.3	4.8	--	-5.7	-6.0
Noncommercial Operations	-1.8	-1.6	-3.2	-3.8	-5.0	-6.5
Current accounts balance	2.3	6.7	1.6	-3.8	-10.7	-12.5
Balance of capital flows	-5.7	-12.5	-6.1	-3.6	-7.2	-7.5
Gold	4.0	3.5	3.8	3.7	3.6	4.0
Total Balance	0.6	-2.3	-0.7	-3.7	-14.3	-16.0
Decrease in reserves	-1.8	0.6	-1.2	0.6	9.6	--
Necessary capacity of supplementary financing	-1.2	-1.7	-1.9	-3.1	-4.7	-16.0
Foreign debt	31.4	39.2	43.0	54.0	60.0	80.0

Senator William Bradley will speak at the Russian Research Center corporate sponsor seminar.

The Russian Research Center will hold the first of its corporate sponsor seminars on October 25, 1991. Senator William Bradley has agreed to be the feature speaker at this first corporate sponsor seminar. He has devoted considerable attention to the economic situation in the Soviet Union.

This will begin our conference program for the year. Our conference schedule for the academic year 1991-92 may not be as ambitious as in years past, but we thought it would be useful to take a look at the Soviet Union and the climate for investment in the aftermath of the attempted August coup.

This first session will be slightly different from the way we conducted these conferences in the past. Because it is alumni weekend at Harvard and we were unable to obtain the Harvard Faculty Club, we have moved the conference to the World Trade Center just outside downtown Boston on 164 Northern Avenue. The parking is easier and it is more accessible to the airport. Some attendees may even decide to take the boat shuttle from the airport to downtown Boston and from there it is a short cab ride or even a walk to the World Trade Center. In addition we are co-sponsoring this conference with the Cambridge East-West Consulting group--a group we have worked with once before.

As the enclosed program indicates, we will focus first on the political, legal and economic side of what is taking place within the Soviet Union and then hear the views of representatives from the government and from members of the business community.

News from the Center

In the aftermath of the attempted August coup in the Soviet Union, fellows at the Russian Research Center were besieged with requests to write and analyse the events. We have included more reprints of articles than we usually do but then again this only a small fraction of what has appeared. In addition we have included an AP dispatch which describes the atmosphere at the Center in these last few weeks. There were also some very praiseworthy articles in the *Harvard Crimson* and the *Boston Phoenix*, a weekly paper. It has been an unusually active and exciting time.

In response to our last Economic Newsletter, Robert Brimberry of Dresser Industries would like to point out that Dresser is still actively involved in doing business in the Soviet Union.

FOREIGN EXCHANGE RATES
as of September 4, 1991
Quoted in rubles

	Official Rate	Commercial Rate	Tourist Rate
£100 Sterling	100.38	301.14	5377.60
100 Aust. Sch.	4.86	14.58	260.44
100 D. Marks	34.18	102.54	1831.19
100 D. Guilders	30.37	91.11	1626.84
100 U.S. Dollars	59.73	179.19	3200.00
100 Fr. Francs	10.08	30.24	540.00
1,000 Jap. ¥	4.36	13.08	233.83
10,000 It. Lire	4.58	13.74	245.59
100 Swiss Frs.	39.08	117.24	2093.83
100 Nor. Kroner	8.75	26.25	469.00
1,000 Bel. Frs.	16.62	49.86	890.62
100 Sw. Kronor	9.42	28.26	504.73

The opinions published here reflect those of the author and not the Russian Research Center unless stated as such. ©1991.

Oil and Gas Potential of the Soviet Union

*James W. Clarke**

Western companies are now very actively engaged in exploration and assessment in nearly every oil and gas basin of the Soviet Union. Although predictions of what will be discovered must be based on indirect approaches, the overall assessment for undiscovered oil and gas is probably very reliable. Moreover, geologic conditions in the Soviet Union are favorable for significant discoveries.

In order for oil and gas production to be maintained at a given level and for the reserves-to-production ratio to remain steady, the amount of effort allocated to exploration and development must be increased from year to year. This is due to the fact that, in general, exploration targets become harder to find and are smaller and less economic. In the late 1980s, the Soviets began to divert funds away from exploration and development to the consumer sector of the economy. Soviet exploration-development allocations are now 20-30 percent below what they should be for the healthy growth of their oil-gas industry. The drop in Soviet oil production over the last two years can be attributed to a large extent to the lack of money. Many other factors are involved, of course, such as the high water cuts in some of the newly producing fields, insufficient and outdated equipment, poor working conditions, and accidents. But the fact remains: The Soviets need financial assistance. *The recent drop in Soviet production does not reflect a decrease in the resource base.*

What is the Soviet resource base from the geologic standpoint? In West Siberia the large fields that have so far been discovered are on "structure," that is, in areas where the reservoir beds and their overlying seals are arched up like an inverted saucer. These structures can be found relatively easily by seismic surveys. Tens of billions of barrels of recoverable oil and hundreds of trillions of cubic feet of natural gas have been found in these traps, and exploration for such traps continues. But this is not necessarily where most of the oil in the Soviet Union lies.

In recent years, Soviet geologists have found that large bodies of sandstone (reservoir rock) are present in delta-like deposits (stratigraphic traps) that are not associated with structures. Delineation of the stratigraphic traps requires more advanced seismic instrumentation and interpretation than are now being used in the Soviet Union. The seismic equipment used by the Soviets is generally thought to be two generations behind that of the West. The electrical cables leak, the geophones are of poor quality, and they do not have adequate computers to process their data. Yet the Soviets are finding these stratigraphic traps, and some of them are giants (elephants). The trend and disposition of the stratigraphic traps that have been found so far indicate that many more such "elephants" are to be found by high-resolution seismic surveys or by reinterpretation of seismic survey data already available.

The rocks that are host to the oil and gas pools of the structural and stratigraphic traps of West Siberia are largely Cretaceous (deposited between 60-140 million years ago) in age. Beneath these Cretaceous rocks are rocks of Jurassic age (deposited between 140-200 million years ago), which are largely unexplored. Although they may not be as productive as the Cretaceous, there is a good chance that the Jurassic rocks will carry prolific gas condensate pools throughout a large region of northern West Siberia.

The southern Kara Sea is geologically part of West Siberia. Recent discoveries in the Kara Sea, combined with other recent discoveries in the Barents Sea, have added more than 250 trillion cubic feet (TCF) of natural gas to the Soviet reserves. And exploration in these two seas is only in the early stages. The Barents Sea has the advantage of having an extension of the geology of the onshore Timan-Pechora oil-gas province low in its section, which is overlain by an extension of the geology of the North Sea and West Siberian oil-gas provinces. These represent two good "shots" at oil and gas occurrence, as well as the added possibility of oil and gas generated in the lower play having migrated upward and being trapped in the upper play.

East Siberia is relatively unexplored. The area of possible oil-gas productivity is equal to about 60 percent of that of the conterminous United States. One Western company claims to have delineated 73 unexplored structures in the southern (Irkutsk) part of this vast region. The gas produced in this region would be transported eastward to the Pacific Ocean. It is too far to ship it westward into the European system. In fact, negotiations with the Japanese to build a pipeline from East Siberia to the Pacific Ocean are currently in progress.

At least ten unexplored structures are present in the Sea of Okhotsk just east of Sakhalin Island. Both oil and gas are expected on these structures. The gas will probably be shipped to Japan via pipeline, which will cross the narrow strait between Sakhalin and Hokkaido.

And what are the prospects for the older producing regions of the Soviet Union? The Baku area of Azerbaidzhan is the oldest producing oil patch in the country. Yet, the Soviets say that this area is only 25 percent explored. Several large structures both onshore and offshore in the North Caspian oil-gas province are yet to be drilled, and one or more Tengiz-size (5-10 billion barrels) fields are likely to be found. The location of these structures on published maps indicates they are certainly favorable for discoveries; furthermore, these are only the structures that have been located in the early stages of exploration of the deep subsurface of the North Caspian depression. The Turkmen and Kazakh republics are also offering areas for exploration that appear to have good potential.

Soviet geologists are very capable scientists and they know how to find oil. However, the Soviet system has lagged behind because of the lack of investment capital, poor quality geophysical instruments and oil-field equipment, bureaucratic control that hindered creative thinking, and a system of reward based on productivity rather than on financial viability. The Gorbachev era has seen *glasnost* (freedom) and *perestroika* (economic restructuring). There is a *third* change that is just as important, that is, *preobrazovaniye*, which is essentially a change in the self-image of the individual and of the people as a whole.

The Soviet Union has faltered in its reform because it has not yet experienced this "preobrazovaniye." On the other hand, the Soviet petroleum geologist is full of "preobrazovaniye" and is fully committed to working with the West. It will be to the great advantage of the Western world to enter, *with proper caution*, into exploration and development of Soviet oil and gas. The resource base is not a problem. The geology of the various oil-gas provinces strongly suggests that more than sufficient oil and gas is to be found to justify entry into this realm.

---

*Dr. Clarke is with the World Energy Resources Program, U.S. Geological Survey, Reston, Virginia. He has specialized for over thirty years in the petroleum geology of the Soviet Union. He publishes *Petroleum Geology*, a bi-monthly journal which reviews the petroleum geology of the Soviet Union.

Reprinted from Geopolitics of Energy, May 1991
by permission of Conant and Associates,
1300 L Street, N. W., Washington, D.C. 20005